

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Jae-Goo CHOI et al.	Examiner:	ALAM, Fayaz
Serial No.:	10/675,635	Art Unit:	2618
Filed:	September 30, 2003	Docket:	1235-6 (SP2003)
		Dated:	December 15, 2010

For: **KEYPAD ASSEMBLY FOR PORTABLE RADIO TELEPHONE AND METHOD OF CONTROLLING THE SAME**

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

TRANSMITTAL OF APPELLANTS' BRIEF ON APPEAL

Sir:

Enclosed please find APPELLANTS' BRIEF.

Also enclosed is a credit card payment in the amount of \$540.00 to cover the appeal fee.

If the enclosed credit card payment is insufficient for any reason or becomes detached, please charge the required fee under 37 C.F.R. §1.17 to Deposit Account No. 50-4053. Also, in the event any additional extensions of time are required, please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-4053.

Respectfully submitted,



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PATENT APPLICATION
Attorney Docket No: 1235-6 (SP2003)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE
BOARD OF PATENT APPEALS AND INTERFERENCES**

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APPELLANTS' BRIEF ON APPEAL

REAL PARTY IN INTEREST

The real party in interest is Samsung Electronics Co., Ltd., the assignee of the subject application, having an office at 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea.

RELATED APPEALS AND INTERFERENCES

To the best of Appellants' knowledge and belief, there are no other currently pending related appeals, interferences or judicial proceedings.

STATUS OF CLAIMS

Original Claims 1-8 were filed on September 30, 2003. Claims 1, 4, and 7 were amended in an Amendment filed on February 6, 2007. Claims 1 and 4 were amended in an Amendment filed with a Request for Continued Examination (RCE) on August 17, 2007. Claims 1, 4, 7, and 8 were amended in an Amendment filed on February 11, 2008. Claims 1, 4, and 7 were amended in an Amendment filed with an RCE on December 11, 2008. Claims 1, 4, and 7 were amended in an Amendment filed on May 20, 2009. Claims 1, 4, and 7 were amended in an Amendment filed with an RCE on December 1, 2009.

Thus, Claims 1-8 are pending in the application, with Claims 1, 4 and 7 being independent. Each of Claims 1-8 stands rejected and is appealed.

STATUS OF AMENDMENTS

The Appendix to this Appeal Brief includes Claims 1-8, the status of each of Claims 1, 4, 7, and 8 is indicated as “Previously Presented”, and the status of each of Claims 2, 3, 5, and 6 is indicated as “Original”.

SUMMARY OF CLAIMED SUBJECT MATTER

The invention as recited in Claim 1 relates to a keypad assembly for a portable radiotelephone (Abstract; FIG. 1)¹. The keypad assembly includes a printed circuit board having a plurality of metal domes (Paragraphs [0029] and [0030]; and FIG. 2, keypad assembly 150, printed circuit board 151, and metal domes 152); a keypad rubber disposed on the printed circuit board and having bosses formed integrally on the positions corresponding to the plurality of metal domes (Paragraph [0031]; and FIG. 2, keypad rubber 154 and bosses 155); a sensing means disposed on the keypad rubber (Paragraph [003]; and FIG. 2, capacitive sensor 153); a key button part disposed on the sensing means, the key button part integrating a keypad and a touch screen panel by having a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons, for functioning in one of a keypad mode and a touch screen panel mode (Paragraph [0029]; and FIGs. 1 and 3); a power supply unit supplying power to the keypad and cutting off power to the touch screen panel in the keypad mode (Paragraph [0030]; and FIG. 4); and an input mode shift key shifting from one of the keypad mode and the touch screen panel mode to the other mode (Paragraph [0029]; and FIGs. 1 and 3, mode shift button 170).

The invention as recited in Claim 4 relates to a portable radiotelephone (Abstract; FIG. 1). The portable radiotelephone includes an input unit integrating a keypad and a touch screen panel by having a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key

¹ Although a citation for each feature of the claims is provided herein, Appellants do not concede the fact that support may be found elsewhere in the written description.

buttons, for functioning in one of a keypad mode and a touch screen panel mode (Paragraph [0029]; and FIGs. 1 and 3); a control unit for generating a control signal to operate the input unit exclusively as one of the touch screen panel and the keypad according to an input mode predetermined by a user mode (Paragraph [0035]; and FIG. 4, control unit 10); an input mode shift key shifting the input unit from one of the keypad mode and the touch screen panel mode to the other mode (Paragraph [0029]; and FIGs. 1 and 3, mode shift button 170); and a power supply unit supplying power to the keypad and cutting off power to the touch screen panel in the keypad mode (Paragraph [0030]; and FIG. 4).

The invention as recited in Claim 7 relates to a method of inputting data to a portable radiotelephone in one of a keypad input mode and a touch screen panel input mode, the portable radiotelephone having a keypad physically integrating a touch screen panel (Paragraph [0042]; and FIGs. 1, 3, and 5). The method includes provisioning the keypad with a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons (Paragraph [0029]; and FIGs. 1 and 3); setting the portable radiotelephone initially in the keypad input mode and supplying power to the keypad and cutting off power to the touch screen panel (Paragraph [0042]; and FIG. 5); determining whether or not an input mode shift key is inputted, the input mode shift key shifting from one of the keypad input mode and the touch screen panel input mode to the other mode (Paragraph [0043]; and FIG. 5, step 211); shifting input mode from the keypad input mode to the touch screen input mode when the input mode shift key is inputted (Paragraph [0043]; and FIG. 5, step 213); and cutting off a driving power supplied to the keypad, and supplying the driving power to the touch screen panel (Paragraph [0043]; and FIG. 5, step 215).

GROUND FOR REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 1-8 are unpatentable over *Bick* (U.K. Pat. App. No. GB 2,367,530) in view of *Miyajima et al.* (U.S. 6,518,958), under 35 U.S.C. § 103(a).

ARGUMENT

1. Independent Claims 1, 4, and 7 are patentable over *Bick* in view of *Miyajima*

Independent Claim 1 was said to be unpatentable over *Bick* in view of *Miyajima*.²

The present application discloses methods and apparatuses wherein a keypad is utilized as a conventional keypad for entering input by pressing a key included in the keypad, and as a touch screen panel. Accordingly, the keypad includes a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons.

Bick discloses a keypad assembly 7 for a portable radiotelephone (Abstract; Fig. 3), comprising a key button part 17 having a plurality of key buttons 18 for functioning in one of a keypad mode and a touch screen panel mode (page 4 lines 18-19); and a power supply unit (page 4 lines 5-6).

Miyajima is directed to an electronic apparatus having a membrane switch and a touch panel switch at its entirety section, the touch panel switch is elastic and is laid over the membrane switch. The two-layered structure provides users with two operations: a “finger-sliding” operation and a “finger-depressing operation.” When a user slides a finger on the surface of the touch panel switch, the sliding force activates the touch panel switch. The “finger-sliding” is used for selecting a desired item. On the other hand, when the user presses down on the surface of the touch panel switch, the depression force through the touch panel switch activates the underlying membrane switch. The

² See Final Office Action dated June 7, 2010 at page 3.

“finger-depressing” is used for numeric or symbolic information entry.

In rejecting independent Claim 1 the Examiner admits that *Bick* fails to teach “a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons,” but asserts that this is taught *Miyajima*.³

The Examiner cites the Abstract and FIGs. 1, 2, and 6-8 of *Miyajima*, specifically identifying “where keys are close together and without spacing where the finger is slid over the same area as the key button part.”⁴

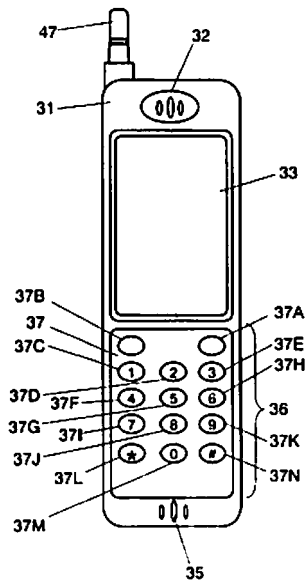
The Abstract of *Miyajima* is summarized above, and as can be easily seen, there is nothing in the Abstract that teaches “a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons.”

Further, FIG. 1 of *Miyajima* is presented below for ease of comparison.

³ See Final Office Action dated June 7, 2010 at page 5.

⁴ See *Id.*

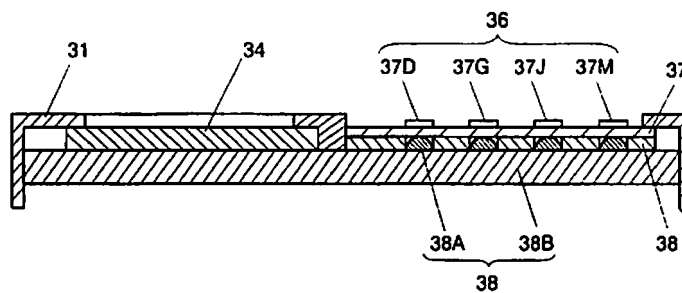
FIG. 1



As can be seen above, the key buttons in FIG. 1 are clearly spaced apart from each.

Further, FIG. 2 of *Miyajima* is presented below for ease of comparison.

FIG. 2



As shown above, FIG. 2 is a side perspective of the phone illustrated in FIG. 1. Additionally, FIG. 2 clearly shows that the top planar surfaces of the plurality of key buttons (37D, 37G, 37J, and 37M) are spaced far apart, and therefore do not form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons, as recited in independent Claim 1.

Additionally, FIGs. 6-8 illustrate basically the same phone and keypad illustrated in FIG. 1. Therefore, these figures also fail to teach “a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons.”

Further, the Examiner’s identification of “where keys are close together and without spacing where the finger is slid over the same area as the key button part,” does not actually appear to relate to anything actually described in *Miyajima*, nor does it appear to address the recitation of Claim 1, i.e., “a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons.”

Upon review of the remaining sections of *Miyajima*, Appellants can find no section that teaches “a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons.”

In response to Appellants' previous arguments, the Examiner states the following:

Miyajima clearly discloses according to its abstract and specification col. 5, lines 1-21, a two-layer structure, where the touch panel formed to be elastic is laid over the top surface of the entry section 36 and membrane switch with tactile feedback is laid beneath the touch panel switch 37. Furthermore, col. 5, lines 22-38 disclose that 37A-37N are markings for the key button input and are simply raised, but otherwise, the top surface is substantially planar and is a single surface with no spacing between keys. The "keys" underneath the touch panel membrane.⁵

Appellants respectfully disagree with Examiner's assertion that that "37A-37N are markings for the key button input and are simply raised, but otherwise, the top surface is substantially planar and is a single surface with no spacing between keys." As is clearly shown above in FIG. 2, the top planar surfaces of the plurality of key buttons are spaced far apart, and therefore do not form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons, as recited in independent Claim 1. Additionally, FIG. 2 illustrates the plurality of key buttons (37D, 37G, 37J, and 37M) having side regions that are perpendicular to the touch panel switch 37. This further contradicts the Examiner's assertion that *Miyajima* teaches top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons.

⁵ See Advisory Action dated August 17, 2010 at page 2.

Further, as *Miyajima* clearly teaches that the touch panel switch 37 is laid over the top surface of the entry section 36 and membrane switch with tactile feedback is laid beneath the touch panel switch 37, it is unreasonable for the Examiner to now assert that the keys are actually underneath the touch panel membrane. Clearly, in *Miyajima*, the “keys” are formed by the touch panel laid over the top surface of the entry section 36. Accordingly, the top planar surfaces of the plurality of key buttons are those identified by 37A-37N, which include 37D, 37G, 37J, and 37M of FIG. 2, and do not form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons.

Additionally, even if Appellants are to use the Examiner’s new interpretation of the keys being below the touch panel membrane, FIG. 2 clearly illustrates that these keys are spaced apart from each other (see 38A and 38B). Accordingly, this still does not teach the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons, for functioning in one of a keypad mode and a touch screen panel mode, as recited in independent Claim 1.

Regarding the rejection of Claims 4 and 7 under 35 U.S.C. § 103(a), the above rationale for Claim 1 also similarly applies to independent Claims 4 and 7 with respect to *Bick* in view of *Miyajima*.

Accordingly, as neither *Bick* nor *Miyajima*, either alone or in combination, teaches “a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons,” independent Claims 1, 4, and 7 are patentably distinct from *Bick* in view of *Miyajima*.

Accordingly, Appellants assert that independent Claims 1, 4, and 7 are allowable over *Bick* in

view of *Miyajima*, and respectfully request withdrawal of the rejection of these claims under 35 U.S.C. §103(a).

2. Dependent Claims 2, 3, 5, 6, and 8 are patentable over *Bick* in view of *Miyajima*

Dependent Claims 2, 3, 5, 6, and 8 were also said to be unpatentable over *Bick* in view of *Miyajima*.⁶

Claims 2, 3, 5, 6, and 8 are patentable at least by virtue of their dependency from independent Claims 1, 4, and 7, respectively. The patentability of independent Claims 1, 4, and 7 is described above.

It is respectfully submitted that because the above arguments place independent Claims 1, 4, and 7 in condition for allowance, these dependent claims are also believed to be in condition for allowance. Therefore, *Bick* in view of *Miyajima* fails to teach, suggest or render obvious every element of Claims 2, 3, 5, 6, and 8, and it is respectfully submitted that Claims 2, 3, 5, 6, and 8 are patentable over *Bick* in view of *Miyajima*.

Accordingly, Appellants respectfully request withdrawal of the rejection of Claims 2, 3, 5, 6, and 8 under 35 U.S.C. §103(a).

⁶ Final Office Action dated June 7, 2010 at page 5.

CONCLUSION

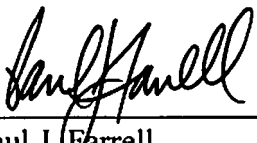
As the Examiner has failed to make out a *prima facie case* for an obviousness rejection, the rejection of Claims 1-8 must be reversed.

It is well settled that in order for a rejection under 35 U.S.C. §103(a) to be appropriate, the claimed invention must be shown to be obvious in view of the prior art as a whole. A claim may be found to be obvious if it is first shown that all of the recitations of a claim are taught in the prior art or are suggested by the prior art. In re Royka, 490 F.2d 981, 985, 180 U.S.P.Q. 580, 583 (C.C.P.A. 1974), cited in M.P.E.P. §2143.03.

The Examiner has failed to show that all of the recitations of Claims 1-8 are taught or suggested by *Bick* in view of *Miyajima*. Accordingly, the Examiner has failed to make out a *prima facie case* for an obviousness rejection.

Accordingly, Claims 1-8 are not rendered unpatentable by *Bick* in view of *Miyajima*, and the rejection of Claims 1-8 must be reversed.

Dated: December 15, 2010

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CLAIMS APPENDIX

1. (Previously Presented) A keypad assembly for a portable radiotelephone, comprising:
 - a printed circuit board having a plurality of metal domes;
 - a keypad rubber disposed on the printed circuit board and having bosses formed integrally on the positions corresponding to the plurality of metal domes;
 - a sensing means disposed on the keypad rubber;
 - a key button part disposed on the sensing means, the key button part integrating a keypad and a touch screen panel by having a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons, for functioning in one of a keypad mode and a touch screen panel mode;
 - a power supply unit supplying power to the keypad and cutting off power to the touch screen panel in the keypad mode; and
 - an input mode shift key shifting from one of the keypad mode and the touch screen panel mode to the other mode.
2. (Original) The keypad assembly for a portable radiotelephone according to claim 1, wherein the sensing means is a capacitive sensor.
3. (Original) The keypad assembly for a portable radiotelephone according to claim 1, wherein the key button part is a film sheet attached to the upper surface of the sensing means, the film sheet having a plurality of numeral keys printed thereon.
4. (Previously Presented) A portable radiotelephone comprising:
 - an input unit integrating a keypad and a touch screen panel by having a plurality of key

buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons, for functioning in one of a keypad mode and a touch screen panel mode;

a control unit for generating a control signal to operate the input unit exclusively as one of the touch screen panel and the keypad according to an input mode predetermined by a user;

an input mode shift key shifting the input unit from one of the keypad mode and the touch screen panel mode to the other mode; and

a power supply unit supplying power to the keypad and cutting off power to the touch screen panel in the keypad mode.

5. (Original) The portable radiotelephone according to claim 4, further comprising a character recognition unit for converting a coordinate value into a character code when the input unit functions as the touch screen panel, the coordinate value being produced from the input unit by a user's contacting an upper surface of the touch screen panel.

6. (Original) The portable radiotelephone according to claim 5, further comprising a display unit for displaying a character corresponding to the character code from the character recognition unit.

7. (Previously Presented) A method of inputting data to a portable radiotelephone in one of a keypad input mode and a touch screen panel input mode, the portable radiotelephone having a keypad physically integrating a touch screen panel, comprising the steps of:

provisioning the keypad with a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons;

setting the portable radiotelephone initially in the keypad input mode and supplying power to the keypad and cutting off power to the touch screen panel;

determining whether or not an input mode shift key is inputted, the input mode shift key shifting from one of the keypad input mode and the touch screen panel input mode to the other mode;

shifting input mode from the keypad input mode to the touch screen input mode when the input mode shift key is inputted; and

cutting off a driving power supplied to the keypad, and supplying the driving power to the touch screen panel.

8. (Previously Presented) The method according to claim 7, further comprising the steps of:
determining whether or not the input mode shift key is inputted;

shifting the input mode from the touch screen input mode to the keypad input mode when the input mode shift key is inputted; and

cutting off the driving power supplied to the touch screen panel, and supplying the driving power to the keypad.

EVIDENCE APPENDIX

There is no evidence submitted pursuant to 37 C.F.R. 1.130, 1.131, 1.132 or entered by the Examiner and relied upon by Appellants.

RELATED PROCEEDINGS APPENDIX

There are no known decisions rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 C.F.R. 41.37.